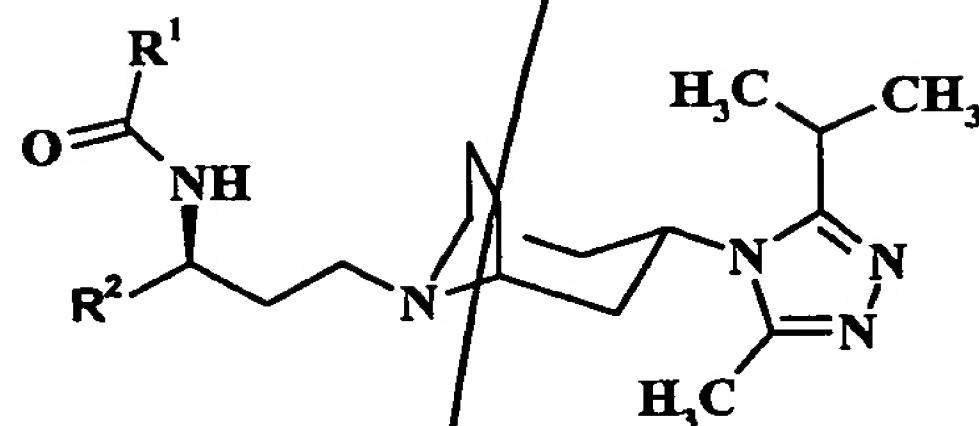


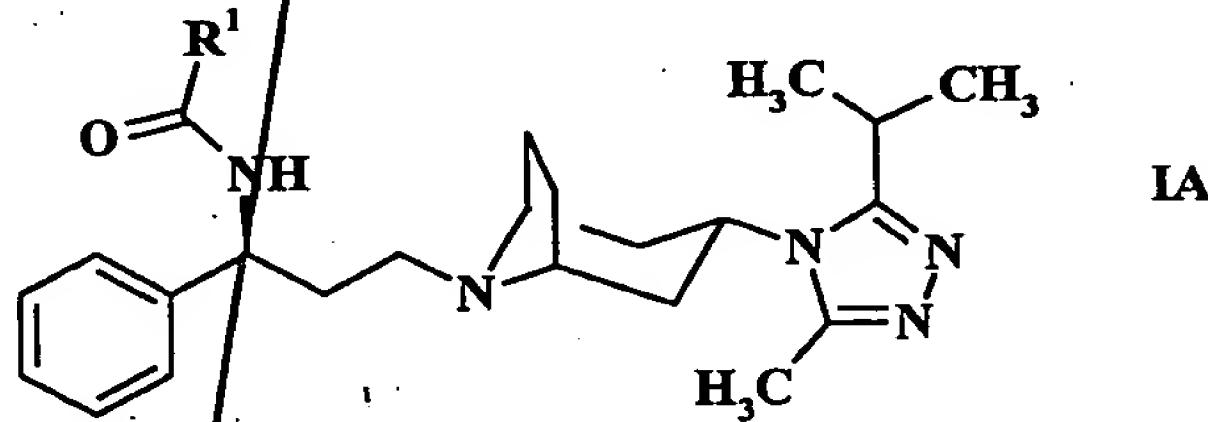
CLAIMS

*Sully A21*  
5  
1. A compound of the formula:



wherein R<sup>1</sup> is C<sub>3-6</sub> cycloalkyl optionally substituted by one or more fluorine atoms, or C<sub>1-6</sub> alkyl optionally substituted by one or more fluorine atoms, or  
 10 C<sub>3-6</sub> cycloalkylmethyl optionally ring-substituted by one or more fluorine atoms;  
 and  
 R<sup>2</sup> is phenyl optionally substituted by one or more fluorine atoms:  
 or a pharmaceutically acceptable salt or solvate thereof.

15 2. A compound as claimed in claim 1 of the formula:



20 wherein R<sup>1</sup> represents either C<sub>3-6</sub> cycloalkyl optionally substituted by one or  
 more fluorine atoms, or C<sub>1-6</sub> alkyl optionally substituted by one or more  
 fluorine atoms, or a pharmaceutically acceptable salt or solvate thereof.

3. A compound as claimed in claim 1 wherein R<sup>1</sup> is either C<sub>4-6</sub> cycloalkyl optionally substituted by one or two fluorine atoms, or C<sub>1-4</sub> alkyl optionally substituted by from one to three fluorine atoms.

P2  
5 4. A compound as claimed in claim 3 wherein R<sup>1</sup> is either cyclobutyl, cyclopentyl, 4,4-difluorocyclohexyl or 3,3,3-trifluoropropyl.

10 5. A compound as claimed in claim 1, 3 or 4 wherein R<sup>2</sup> is phenyl optionally substituted by 1 or 2 fluorine atom(s).

15 6. A compound as claimed in claim 5 wherein R<sup>2</sup> is phenyl or monofluorophenyl.

7. A compound as claimed in claim 6 wherein R<sup>2</sup> is phenyl or 3-fluorophenyl.

15 8. A compound as claimed in claim 1 which is selected from the group consisting of:

N-{(1S)-3-[3-(3-Isopropyl-5-methyl-4H-1,2,4-triazol-4-yl)-exo-8-azabicyclo[3.2.1]oct-8-yl]-1-phenylpropyl}cyclobutanecarboxamide;

20 N-{(1S)-3-[3-(3-Isopropyl-5-methyl-4H-1,2,4-triazol-4-yl)-exo-8-azabicyclo[3.2.1]oct-8-yl]-1-phenylpropyl}cyclopentanecarboxamide;

N-{(1S)-3-[3-(3-Isopropyl-5-methyl-4H-1,2,4-triazol-4-yl)-exo-8-azabicyclo[3.2.1]oct-8-yl]-1-phenylpropyl}-4,4,4-trifluorobutanamide;

N-{(1S)-3-[3-(3-Isopropyl-5-methyl-4H-1,2,4-triazol-4-yl)-exo-8-

25 azabicyclo[3.2.1]oct-8-yl]-1-phenylpropyl}-4,4-difluorocyclohexanecarboxamide; and

N-{(1S)-3-[3-(3-Isopropyl-5-methyl-4H-1,2,4-triazol-4-yl)-exo-8-azabicyclo[3.2.1]oct-8-yl]-1-(3-fluorophenyl)propyl}-4,4-

30 difluorocyclohexanecarboxamide: or a pharmaceutically acceptable salt or solvate of any thereof.

A2  
✓

9. A pharmaceutical composition including a compound of the formula (I) or a pharmaceutically acceptable salt or solvate thereof, as claimed in any preceding claim, together with a pharmaceutically acceptable excipient, diluent or carrier.
- 5
10. A compound of the formula (I) or a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for use as a medicament.
- 10 11. A compound of the formula (I) or a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the treatment of a disorder in which the modulation of CCR5 receptors is implicated.
- 15 12. A compound of the formula (I) or a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the treatment of HIV, a retroviral infection genetically related to HIV, AIDS, or an inflammatory disease.
- 20 13. A compound of the formula (I) or a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the treatment of a respiratory disorder including adult respiratory distress syndrome (ARDS), bronchitis, chronic bronchitis, chronic obstructive pulmonary disease, cystic fibrosis, asthma, emphysema, rhinitis or
- 25 chronic sinusitis.
14. A compound of the formula (I) or a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the treatment of an inflammatory bowel disease, including
- 30 Crohn's disease or ulcerative colitis, multiple sclerosis, rheumatoid arthritis, graft rejection, including a kidney or a lung allograft, endometriosis, type I

diabetes, a renal disease, chronic pancreatitis, an inflammatory lung condition or chronic heart failure.

5 15. The use of a compound of the formula (I) or of a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the manufacture of a medicament for the treatment of a disorder in which the modulation of CCR5 receptors is implicated.

10 16. The use of a compound of the formula (I) or of a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the manufacture of a medicament for the treatment of HIV, a retroviral infection genetically related to HIV, AIDS, or an inflammatory disease.

15 17. The use of a compound of the formula (I) or of a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the manufacture of a medicament for the treatment of a respiratory disorder including adult respiratory distress syndrome (ARDS), bronchitis, chronic bronchitis, chronic obstructive pulmonary disease, cystic fibrosis, asthma, emphysema, rhinitis or chronic sinusitis.

20 25 18. The use of a compound of the formula (I) or of a pharmaceutically acceptable salt, solvate or composition thereof, as claimed in any one of claims 1 to 8 and 9, respectively, for the manufacture of a medicament for the treatment of an inflammatory bowel disease, including Crohn's disease or ulcerative colitis, multiple sclerosis, rheumatoid arthritis, graft rejection, 30 including a kidney or a lung allograft, endometriosis, type I diabetes, a renal

disease, chronic pancreatitis, an inflammatory lung condition or chronic heart failure.

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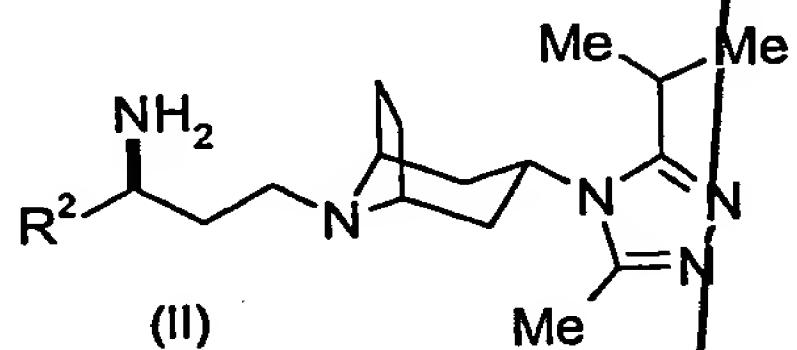
5 19. A method of treatment of a mammal to treat a disorder in which the modulation of CCR5 receptors is implicated including treating said mammal with an effective amount of a compound of the formula (I) or with a pharmaceutically acceptable salt, solvate or composition thereof as claimed in any one of claims 1 to 8 and 9, respectively.

10 20. A method of treatment of a mammal to treat HIV, a retroviral infection genetically related to HIV, AIDS, or an inflammatory disease including treating said mammal with an effective amount of a compound of the formula (I) or with a pharmaceutically acceptable salt, solvate or composition thereof as claimed in any one of claims 1 to 8 and 9, respectively.

15 21. A method of treatment of a mammal to treat a respiratory disorder including adult respiratory distress syndrome (ARDS), bronchitis, chronic bronchitis, chronic obstructive pulmonary disease, cystic fibrosis, asthma, emphysema, rhinitis or chronic sinusitis including treating said mammal with 20 an effective amount of a compound of the formula (I) or with a pharmaceutically acceptable salt, solvate or composition thereof as claimed in any one of claims 1 to 8 and 9, respectively.

25 22. A method of treatment of a mammal to treat an inflammatory bowel disease, including Crohn's disease or ulcerative colitis, multiple sclerosis, rheumatoid arthritis, graft rejection, including a kidney or a lung allograft, endometriosis, type I diabetes, a renal disease, chronic pancreatitis, an inflammatory lung condition or chronic heart failure including treating said mammal with an effective amount of a compound of the formula (I) or with a 30 pharmaceutically acceptable salt, solvate or composition thereof as claimed in any one of claims 1 to 8 and 9, respectively.

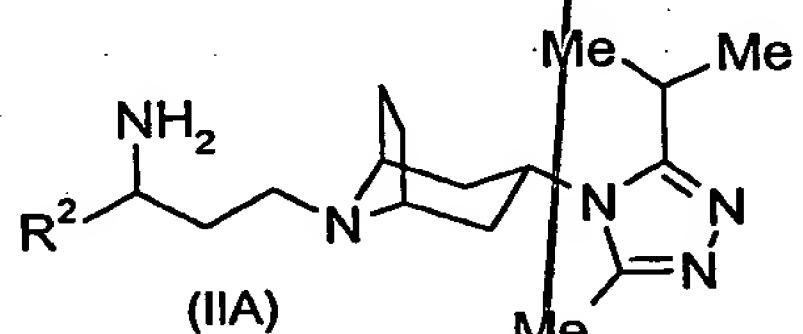
23. A compound of the formula:



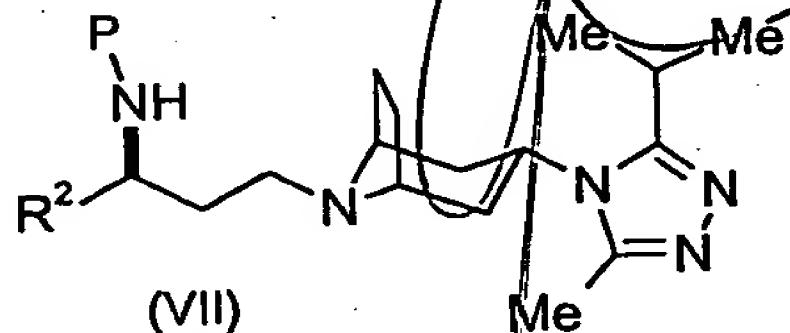
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where R<sup>2</sup> is as defined in claim 1.

24. A compound of the formula:

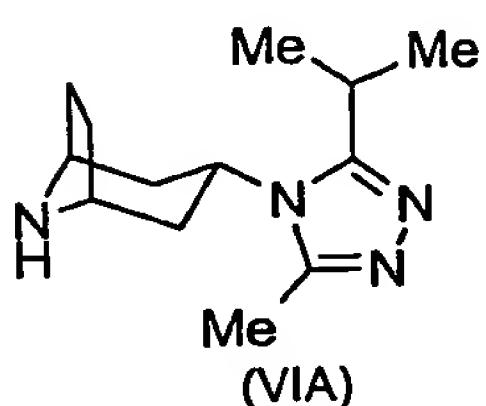
10 where R<sup>2</sup> is as defined in claim 1.

25. A compound of the formula:

15 where R<sup>2</sup> is as defined in claim 1 and P is a protecting group.

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26. A compound of the formula:

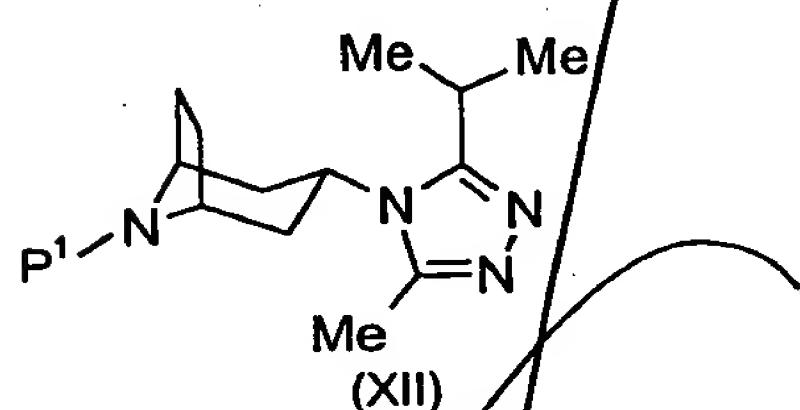


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or a salt thereof, preferably a p-toluenesulphonate salt.

27. A compound of the formula:

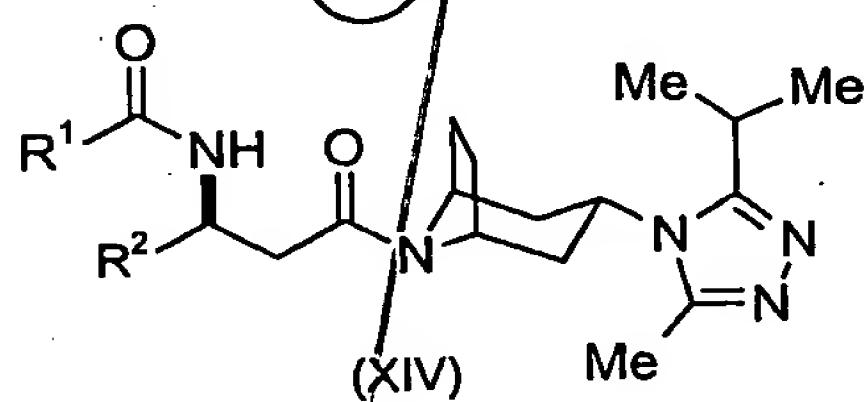
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where P<sup>1</sup> is a protecting group.

28. A compound of the formula:

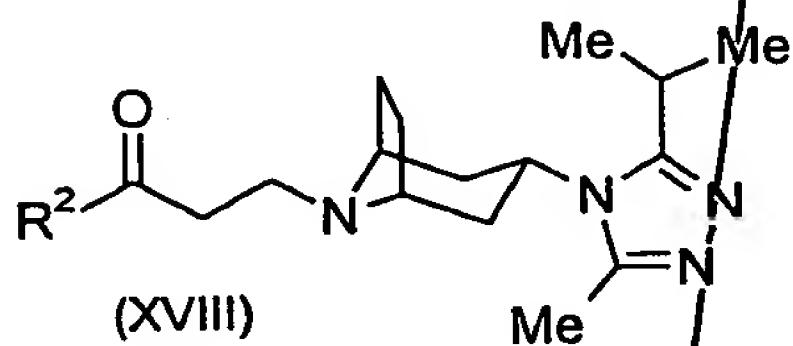
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where R<sup>1</sup> and R<sup>2</sup> are as defined in claim 1.

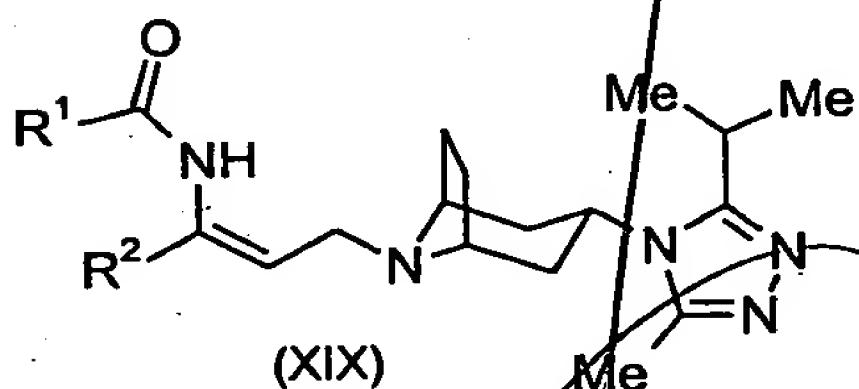
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29. A compound of the formula:



5 where  $\text{R}^2$  is as defined in claim 1.

30. A compound of the formula:



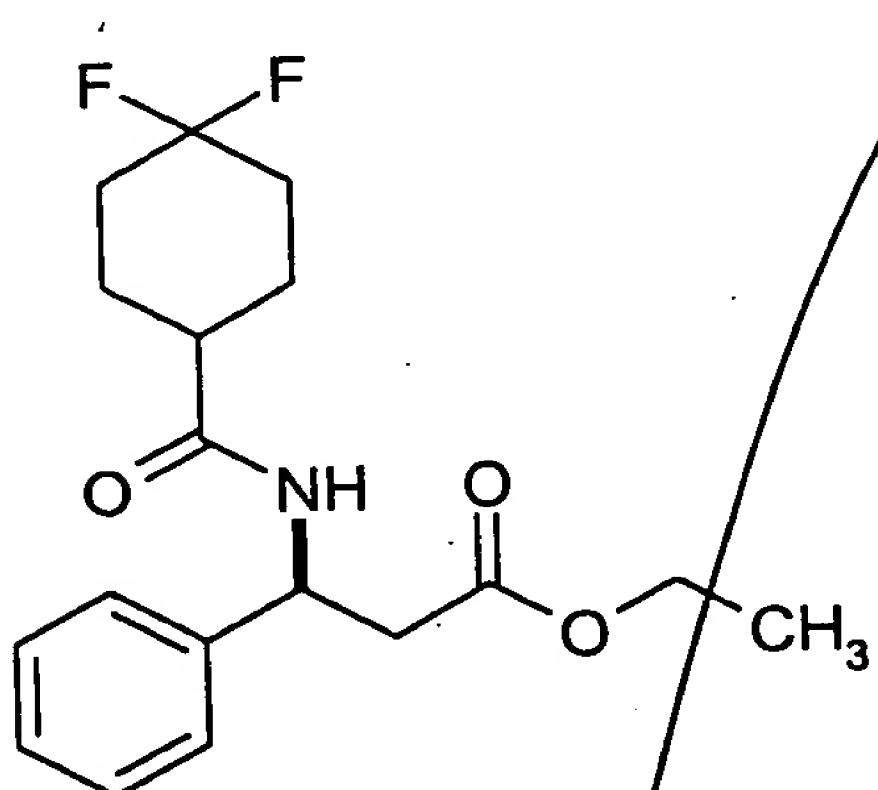
10 where  $\text{R}^1$  and  $\text{R}^2$  are as defined in claim 1.

31. A compound as claimed in claims 23, 24, 25, 28, 29 and 30 wherein  $\text{R}^2$  is phenyl.

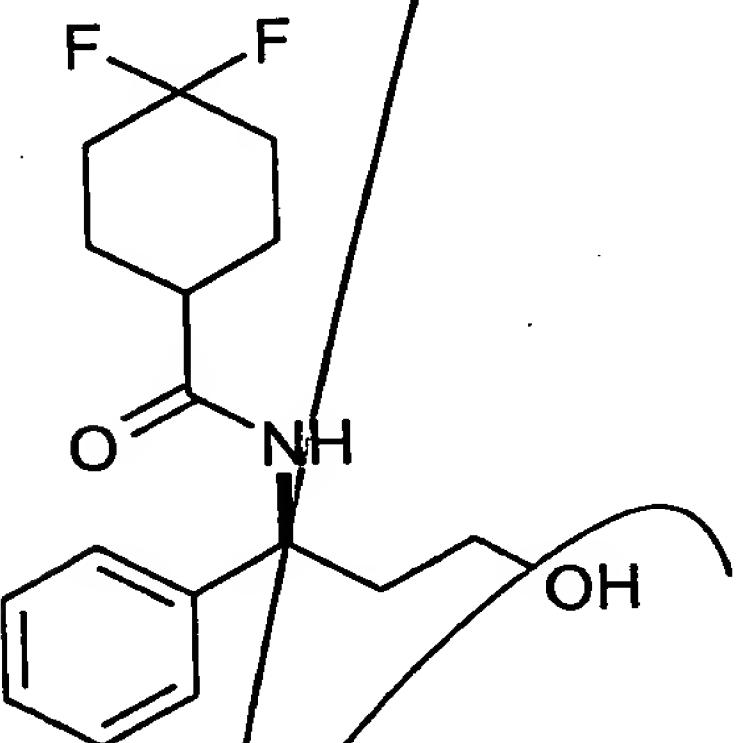
15 32. A compound as claimed in claim 27 wherein  $\text{P}^1$  is benzyl.

33. A compound as claimed in claim 25 wherein  $\text{P}$  is t-butyloxycarbonyl or benzyloxycarbonyl.

20 34. A compound of the formula:

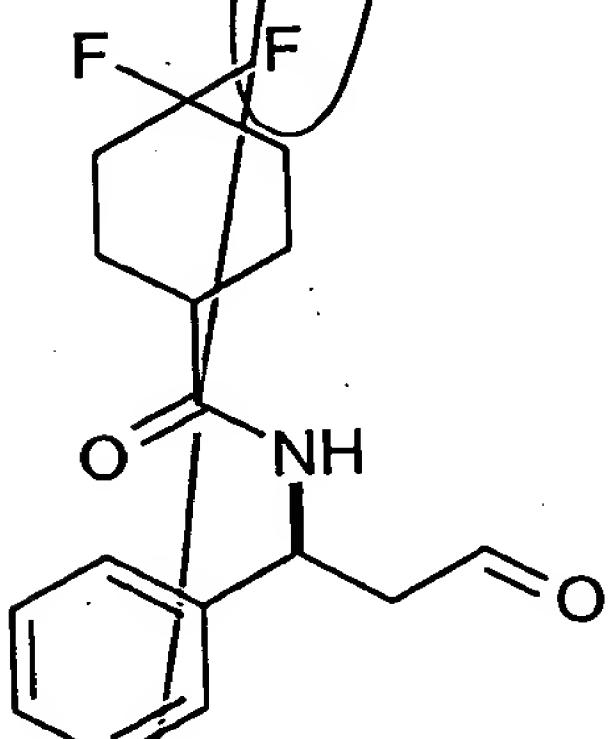


35. A compound of the formula:



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36. A compound of the formula:

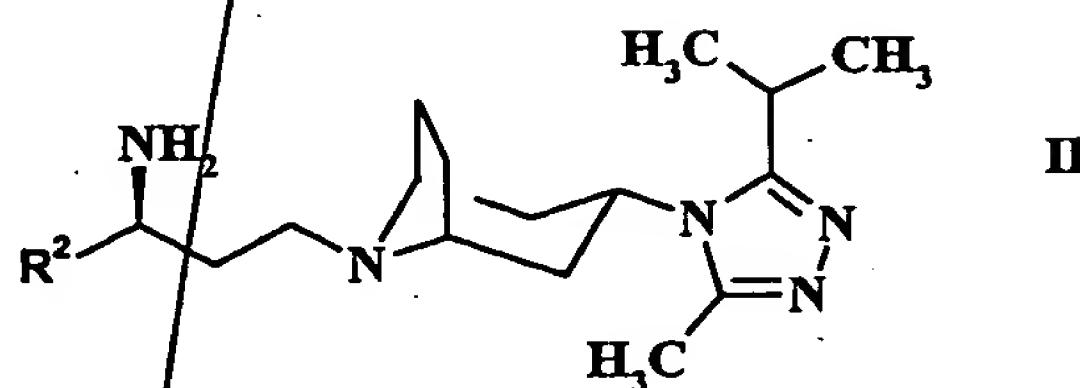


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37. A process for the preparation of a compound of the formula (I) as claimed in claim 1 which comprises:

(a) coupling a compound of the formula:

5



with a compound of formula:

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wherein R<sup>1</sup> and R<sup>2</sup> are as defined for a compound of the formula (I); or

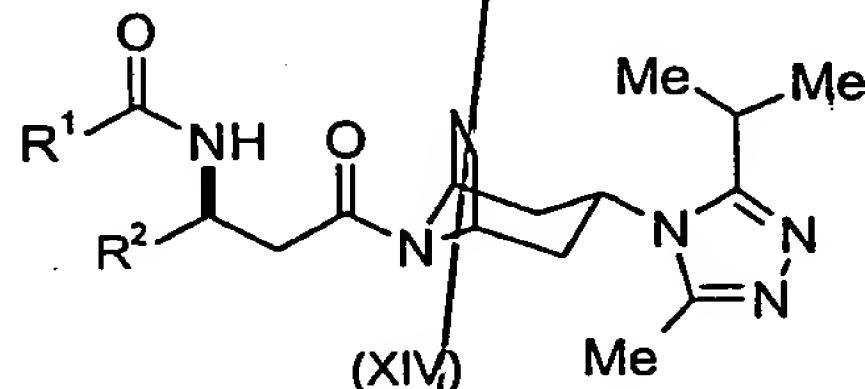
(b) reaction of a compound of the formula (II) with a compound of the formula:

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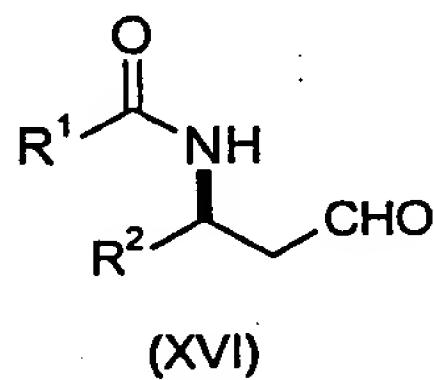
where Z is a carboxylic acid activating group; or

20 (c) reduction of a compound of the formula:

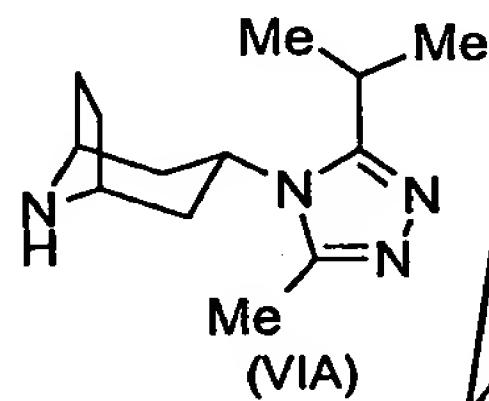


wherein R<sup>1</sup> and R<sup>2</sup> are as defined for a compound of the formula (I);

(d) reductive amination using a compound of the formula:



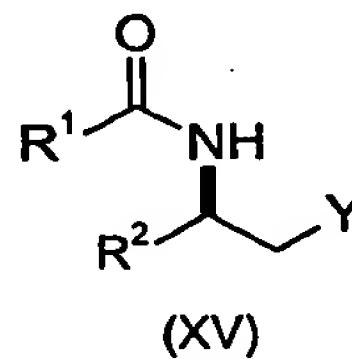
5 where  $\text{R}^1$  and  $\text{R}^2$  are as defined for a compound of the formula (I), and a compound of the formula:



or a salt thereof; or

10

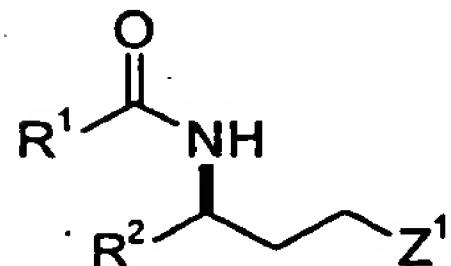
(e) reductive amination using a compound of the formula:



where  $\text{Y}$  is CN and  $\text{R}^1$  and  $\text{R}^2$  are as defined for a compound of the formula

15 (I), and a compound of the formula (VIA), or a salt thereof; or

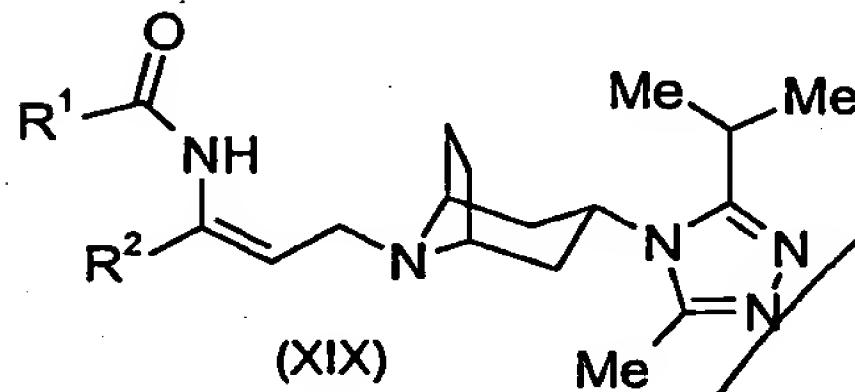
(f) alkylation of a compound of the formula (VIA), or a salt thereof, with a compound of the formula:



(XVII)

5 where  $Z^1$  is a leaving group and  $R^1$  and  $R^2$  are as defined for a compound of the formula (I); or

(g) asymmetric reduction of a compound of the formula:



(XIX)

where R<sup>1</sup> and R<sup>2</sup> are as defined for a compound of the formula (I); or

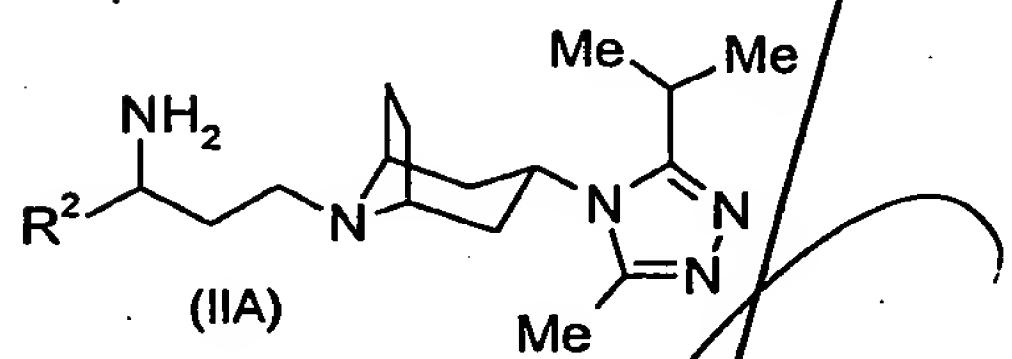
(h) reaction of a compound of the formula (II), or a metal salt thereof, with a  
15 compound of the formula:



(XXIV)

20 where R<sup>1</sup> is as defined for a compound of the formula (I) and R<sup>5</sup> is an ester-forming group; or

(i) reaction of a compound of the formula:



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either with a compound of the formula (III) under coupling conditions, or a compound of the formula (VIB), and in the presence of a chiral catalyst:

any one of said processes being optionally followed by conversion of a  
10 compound of the formula (I) to a pharmaceutically acceptable salt thereof.

*all PAH*

*add B<sub>3</sub>N<sub>3</sub>H<sub>2</sub>*